AMENDMENTS TO THE DRAWINGS

Submitted herewith please find one (1) sheet of replacement drawings in compliance with 37 C.F.R. § 1.84. The Examiner is respectfully requested to acknowledge receipt of these drawings.

The submitted drawings are intended to replace the drawings previously submitted.

Attachment: Replacement Sheets (One (1))

REMARKS

Claims 1, 2 and 4-10 are all the claims pending in the application.

Claim 1 has been amended to incorporate the subject matter of claim 3, which has been canceled. Claim 2 has been amended to depend from claim 1. Claims 5-9 have been amended to replace "is" by "has" for purposes of clarity.

In addition, the specification has been amended to move the "Brief Description of the Drawings" before "Detailed Description of the Invention."

Further, a Replacement Drawing has been submitted.

Entry of the above amendments is respectfully requested.

I. Objection to Drawings and Specification

A. Drawings

The drawings are objected to under 37 C.F.R. §1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the Examiner asserts that a cylinder valve, flow controller, and line filter must be shown.

Without acquiescing the merits of the objection, a Replacement Drawing in which a cylinder valve, flow controller, and line filter are shown has been submitted herewith.

B. Specification

The Examiner objects to the specification and asserts that each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. See 37 C.F.R. § 1.77(b). The Examiner also asserts that if no text follows the section heading, the phrase "Not Applicable" should follow the section heading.

Applicants respectfully traverse the objection.

First, 37 C.F.R. § 1.77(b) states that a specification "should" include these headings as opposed to "must" include. Thus, if a heading is not application, the specification need not

include the heading. Second, the specification includes 8 of the 12 (highlighted in italics) already. Third, in the specification "Summary of the Invention" is before "Detailed Description of the Invention".

(a) TITLE OF THE INVENTION.

(b) CROSS-REFERENCE TO RELATED APPLICATIONS.

(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.

(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.

(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.

(f) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art.

(g) BRIEF SUMMARY OF THE INVENTION.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(i) DETAILED DESCRIPTION OF THE INVENTION.

(j) CLAIM OR CLAIMS (commencing on a separate sheet).

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet). (I) SEQUENCE LISTING.

In view of the above, withdrawal of the objections is respectfully requested.

II. Rejection of Claims 5-9 under 35 U.S.C. § 112, second paragraph

Claims 5-9 are rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite.

Specifically, the Examiner asserts that claims 5 and 7-9 do not make sense as the apparatus is not (it appears that it should be "has" instead of "is") a cylinder valve, pressure regulator, flow controller, line filter or a line valve.

Without acquiescing the merits of the rejection, claims 5-9 have been amended as suggested by the Examiner.

Accordingly, withdrawal of the rejection is respectfully requested.

III. Response to Rejection of Claims 1-10 under 35 U.S.C. § 102(b)

Claims 1-10 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Borland et al. (US 5,474,104).

Applicants respectfully traverse the rejection.

Claim 1 is directed to an apparatus for feeding a high-purity ammonia gas, comprising a sealing part and/or a gas contacting part, which comprise a halogen-free resin selected from the group consisting of a polyolefin resin, a phenol resin, a xylene resin, a polyphenylene sulfide resin, a polyether ether ketone resin and a polyimide resin.

Borland relates to a refueling check valve for compressed natural gas powered vehicles and does not relate to an apparatus for feeding a high-purity ammonia gas. However, Borland discloses a sealing gasket 66 preferably fabricated of a resilient polymer, such as a polyamide that resists relaxation over time. *See* col. 4, lines 28-30.

Thus, Borland does not disclose that a halogen free resin selected from the group consisting of a polyolefin resin, a phenol resin, a xylene resin, a polyphenylene sulfide resin, a polyether ether ketone resin and a polyimide resin is used as sealing materials for corrosive gas, particularly an ammonia gas. In addition, Borland does not disclose, teach or suggest an apparatus for feeding an ammonia gas as the corrosive or hazardous fluids.

Hence, Borland fails to anticipate the present invention according to claim 1.

In addition, the present invention relates to an apparatus for feeding a high-purity ammonia gas. It was discovered that a dehalogenation reaction takes place on contacting of the high-purity ammonia gas with a fluororesin and this dehalogenation reaction corrodes and

damages the metal material constituting the apparatus. *See* page 5, lines 11-22 of the specification. Regarding this point, the property of the high-purity ammonia gas used in the invention is clearly different from that of, for example, corrosive or hazardous fluids such as halogen-base gases described in Beaver (discussed below).

In view of above, the present invention is characterized in that a halogen-free resin, which is selected from the group consisting of a polyolefin resin, a phenol resin, a xylene resin, a polyphenylene sulfide resin, a polyether ether ketone resin and a polyimide resin, is used as a sealing part and/or a gas contacting part of the apparatus for feeding a high-purity ammonia gas, in order to prevent a metal corrosion due to a dehalogenation reaction, which is taken place on contacting of the high-purity ammonia gas with a fluororesin.

Borland fails to disclose, teach or suggest sealing materials for preventing a metal corrosion due to the high-purity ammonia gas. Thus, the features and effects of the present invention are not disclosed, taught or suggested in Borland.

Accordingly, one of ordinary skill in the art would not have used a halogen-free resin, particularly a halogen-free resin selected from the group consisting of a polyolefin resin, a phenol resin, a xylene resin, a polyphenylene sulfide resin, a polyether ether ketone resin and a polyimide resin which are not disclosed in Borland, as a sealing part and/or a gas contacting part of an apparatus for feeding a high-purity ammonia gas, based on the disclosure of Borland to arrive at the claimed invention.

For at least the above reasons, it is respectfully submitted that claim 1, and the claims depending therefrom, are patentable over Borland.

In view of the above, withdrawal of the rejection is respectfully requested.

IV. Response to Rejection of Claims 1-2, 4-7 and 9-10 under 35 U.S.C. § 102(b)

Claims 1-2, 4-7 and 9-10 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Beaver et al. (US 5,149,105).

Applicants respectfully traverse the rejection.

Beaver discloses that a seal carrier is preferably made from various metal materials; a fluorocarbon polymer such as Teflon® or Kynar® resin; a nylon resin or a polyester resin. *See* col. 4, lines 1-10. In addition, Beaver discloses that suitable gasket or o-ring materials include, without limitation, Viton® resin, Hypalon® resin, Teflon® resin and Kalrez® resin, which are halogen-containing materials, in addition to the (natural or synthetic) rubber. *See* col. 4, lines 11-26.

Thus, Beaver does not disclose the use of a halogen-free resin selected from the group consisting of a polyolefin resin, a phenol resin, a xylene resin, a polyphenylene sulfide resin, a polyether ether ketone resin and a polyimide resin as sealing materials for corrosive gas, particularly an ammonia gas.

Hence Beaver fails to anticipate the present invention according to claim 1.

In addition, Beaver discloses an apparatus for dealing with corrosive or hazardous fluids, but does not disclose an ammonia gas as the corrosive or hazardous fluids. Thus, Beaver fails to disclose, teach or suggest sealing materials for preventing a metal corrosion due to the high-purity ammonia gas. Thus, the features and effects of the present invention are not disclosed, taught or suggested in Beaver.

Accordingly, one of ordinary skill in the art would not have used a halogen-free resin, particularly a halogen-free resin selected from the group consisting of a polyolefin resin, a phenol resin, a xylene resin, a polyphenylene sulfide resin, a polyether ether ketone resin and a polyimide resin which are not disclosed in Beaver, as a sealing part and/or a gas contacting part

of an apparatus for feeding a high-purity ammonia gas, based on the disclosure of Beaver to arrive at the claimed invention.

For at least the above reasons, it is respectfully submitted that claim 1, and the claims depending therefrom, are patentable over Beaver.

In view of the above, withdrawal of the rejection is respectfully requested.

V. Response to Rejection of Claims 1, 3-7 and 9-10 under 35 U.S.C. § 102(b)

Claims 1, 3/1, 4/1, 5/1, 6/1, 7/1, 9/1, and 10/1 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Yocum (US 3,438,391).

Applicants respectfully traverse the rejection.

Yocum discloses that examples of materials used for the seat disk include tetrafluoroethylene (Teflon), trifluorochloroethylene (Kel F) and polyamide resins (nylon), of which the tetrafluoroethylene and trifluorochloroethylene, which are halogen-containing resins, are preferred. *See* col. 2, lines 65-70. However, Yocum fails to disclose the use of a halogen free resin selected from the group consisting of a polyolefin resin, a phenol resin, a xylene resin, a polyphenylene sulfide resin, a polyether ether ketone resin and a polyimide resin is used as sealing materials for corrosive gas, particularly an ammonia gas.

Hence, Yocum fails to anticipate the present invention according to claim 1.

In addition, Yocum fails to disclose, teach or suggest an apparatus for feeding an ammonia gas as the corrosive or hazardous fluids. Thus, Yocum fails to disclose, teach or suggest sealing materials for preventing a metal corrosion due to the high-purity ammonia gas. Thus, the features and effects of the present invention are not disclosed, taught or suggested in Yocum.

Accordingly, one of ordinary skill in the art would not have used a halogen-free resin, particularly a halogen-free resin selected from the group consisting of a polyolefin resin, a

phenol resin, a xylene resin, a polyphenylene sulfide resin, a polyether ether ketone resin and a polyimide resin which are not disclosed in Yocum, as a sealing part and/or a gas contacting part of an apparatus for feeding a high-purity ammonia gas, based on the disclosure of Yocum to arrive at the claimed invention.

For at least the above reasons, it is respectfully submitted that claim 1, and the claims depending therefrom, are patentable over Yocum.

In view of the above, withdrawal of the rejection is respectfully requested.

VI. Response to Rejection of Claims 2-7 and 9-10 under 35 U.S.C. § 103(a)

Claims 2, 3/2, 4/2, 5/2, 6/2, 7/2, 9/2, and 10/2 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yocum (US 3,438,391) in view of Borland et al. (US 5,474,104).

Applicants respectfully traverse the rejection.

Claim 2 depends from claim 1, and thus it is respectfully submitted that claim 2 is patentable over the cited art for at least the same reasons as claim 1.

Accordingly, withdrawal of the rejection is respectfully requested.

VII. Response to Rejection of Claims 3 and 8 under 35 U.S.C. § 103(a)

Claims 3 and 8 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Beaver et al. (US 5,149,105) in view of Borland et al. (US 5,474,104).

Applicants respectfully traverse the rejection.

Claims 3 and 8 depend from claim 1, and thus it is respectfully submitted that claims 3 and 8 are patentable over the cited art for at least the same reasons as claim 1.

Accordingly, withdrawal of the rejection is respectfully requested.

VIII. Response to Rejection of Claim 10 under 35 U.S.C. § 103(a)

Claim 10 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Borland et al. (US 5,474,104) in view of Floh et al. (US 2004/0045605).

Applicants respectfully traverse the rejection.

Claim 10 depends from claim 1, and thus it is respectfully submitted that claim 10 is patentable over the cited art for at least the same reasons as claim 1.

In addition, Floh discloses that examples of a pressurized fluids include gases such as ammonia gas and that examples of the material of structural elements such as cylindrical internal spigot include suitable plastics material such as PVC or the like. However, Floh does not disclose, teach or suggest that a halogen free resin selected from the group consisting of a polyolefin resin, a phenol resin, a xylene resin, a polyphenylene sulfide resin, a polyether ether ketone resin and a polyimide resin is used as sealing materials for corrosive gas, particularly an ammonia gas.

Accordingly, withdrawal of the rejection is respectfully requested.

IX. Response to Rejection of Claim 10 under 35 U.S.C. § 103(a)

Claim 10 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Beaver et al. (US 5,149,105) in view of Floh et al. (US 2004/0045605).

Applicants respectfully traverse the rejection.

Claim 10 depends from claim 1, and thus it is respectfully submitted that claim 10 is patentable over the cited art for at least the same reasons as claim 1.

Accordingly, withdrawal of the rejection is respectfully requested.

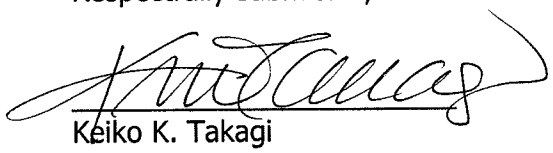
X. Conclusion

In view of the above, reconsideration and allowance of claims 1, 2 and 4-10 is respectfully requested.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Keiko K. Takagi
Registration No. 47,121

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: December 19, 2008